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L1 QUE (HEPARINASE OR HEPARANASE OR (HEPARIN (W) LYASE)
OR (HEPARAN (W) LYASE))

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FILE 'DGENE' ENTERED AT 10:38:03 ON 22 JAN 2007
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=> S cleav? (s) L4
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ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
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=> d ibib abs L6 1-23

L6 ANSWER 1 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2007:11578 USPATFULL <<LOGINID::20070122>>
TITLE: Synthetic heparanase molecules and uses thereof
INVENTOR(S): Steinkuhler, Christian, Promezia, ITALY
Lahm, Armin, Promezia, ITALY
Pallaoro, Michele, Promezia, ITALY
Nardella, Caterina, Promezia, ITALY

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007009989	A1	20070111
APPLICATION INFO.:	US 2004-572796	A1	20040917 (10)
	WO 2004-EP10517		20040917
			20060321 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-506479P	20030926 (60)
	US 2004-537729P	20040120 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MERCK AND CO., INC, P O BOX 2000, RAHWAY, NJ, 07065-0907, US
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 2172
AB The present invention relates to synthetically produced, enzymatically active heparanase nucleic acid molecules that are capable of expression in high yield heterologous expression systems, and to polypeptides encoded by said molecules. Also provided herein are methods of expressing mammalian heparanase in heterologous expression systems, wherein high yields of biologically active heparanase are produced compared to prior art methods.

L6 ANSWER 2 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2006:150967 USPATFULL <<LOGINID::20070122>>
TITLE: Pharmaceutical compositions and methods useful for modulating angiogenesis, inhibiting metastasis and tumor fibrosis, and assessing the malignancy of colon cancer tumors
INVENTOR(S): Neufeld, Gera, Haifa, ISRAEL
Akiri, Gal, Haifa, ISRAEL
Vadasz, Zahava, Haifa, ISRAEL
Gengrinovitch, Stela, Merom Galil, ISRAEL
PATENT ASSIGNEE(S): Technion Research & Development Foundation Ltd., Technion City, ISRAEL (non-U.S. corporation)

NUMBER KIND DATE
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PATENT INFORMATION: US 2006127402 A1 20060615
APPLICATION INFO.: US 2003-536440 A1 20031127 (10)
WO 2003-IL1008 20031127
20051114 PCT 371 date

NUMBER DATE
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PRIORITY INFORMATION: US 2002-10305348 20021127
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Martin Moynihan, Anthony Castorina, Suite 207, 2001 Jefferson Davis Highway, Arlington, VA, 22202, US
NUMBER OF CLAIMS: 51
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 17 Drawing Page(s)
LINE COUNT: 3438
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions suitable for modulating angiogenesis in a mammalian tissue are provided. Further provided are methods suitable for inhibiting metastasis and fibrosis in a mammalian tissue and for assessing the malignancy of colon cancer tumors.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 3 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2005:118259 USPATFULL <<LOGINID::20070122>>
TITLE: Protamine fragment compositions and methods of use
INVENTOR(S): Yang, Victor C., Ann Arbor, MI, UNITED STATES
Byun, Youngro, Kwangsan-Ku Kwangju, KOREA, REPUBLIC OF

NUMBER KIND DATE
---------- ------ --------
PATENT INFORMATION: US 2005101532 A1 20050512
APPLICATION INFO.: US 2003-668663 A1 20030923 (10)
RELATED APPLN. INFO.: Division of Ser. No. US 2000-700967, filed on 16 Nov 2000, GRANTED, Pat. No. US 6624141 A 371 of International Ser. No. WO 2000-US6876, filed on 15 Mar 2000

NUMBER DATE
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PRIORITY INFORMATION: US 1999-124873P 19990317 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: WILLIAMS, MORGAN & AMERSON, P.C., 10333 RICHMOND, SUITE 1100, HOUSTON, TX, 77042, US
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1-47
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 2727
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Provided are bioactive, low-toxicity protamine fragments, compositions, combinations, kits and methods of using these components in a variety of embodiments, including neutralizing heparin and reducing post-operative bleeding. Improved protamine fragment-insulin solutions and methods for treating diabetes are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 4 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2002:108833 USPATFULL <<LOGINID::20070122>>
TITLE: Human platelet heparanase polypeptides, polynucleotide molecules that encode them, and methods for the identification of compounds that alter heparanase activity
INVENTOR(S): Heinrikson, Robert Leroy, Plainwell, MI, United States
Fairbanks, Michael B., Kalamazoo, MI, United States
Mildner, Ana M., Kalamazoo, MI, United States

PATENT ASSIGNEE(S): Pharmacia and Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6387643	B1	20020514
APPLICATION INFO.:	US 1999-252586		19990218 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-75706P	19980224 (60)
	US 1998-79401P	19980326 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: McGarry, Sean
ASSISTANT EXAMINER: Epps, Janet
LEGAL REPRESENTATIVE: Rehberg, Edward F., Kerber, Lori E.
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 1875
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides isolated human heparanase polypeptides, and the isolated polynucleotide molecules that encode them, as well as vectors and host cells comprising such polynucleotide molecules. The invention also provides a method for the identification of an agent that alters heparanase activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 5 OF 23 Elsevier BIOBASE COPYRIGHT 2007 Elsevier Science B.V. on STN DUPLICATE

ACCESSION NUMBER: 2003037224 ESBIOBASE <<LOGINID::20070122>>
TITLE: Cell surface targeting of pregnancy-associated plasma protein A proteolytic activity: Reversible adhesion is mediated by two neighboring short consensus repeats
AUTHOR: Laursen L.S.; Overgaard M.T.; Weyer K.; Boldt H.B.; Ebbesen P.; Christiansen M.; Sottrup-Jensen L.; Giudicell L.C.; Oxvig C.
CORPORATE SOURCE: C. Oxvig, Department of Molecular Biology, Science Park, University of Aarhus, Gustav Wieds Vej 10C, DK-8000 Aarhus C, Denmark. E-mail: co@mb.au.dk
SOURCE: Journal of Biological Chemistry, (06 DEC 2002), 277/49 (47225-47234), 51 reference(s) CODEN: JBCHA3 ISSN: 0021-9258
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The activities of insulin-like growth factor (IGF)-I and -II are regulated by IGF-binding proteins (IGFBPs). ***Cleavage*** of IGFBP-4 by the metalloproteinase pregnancy-associated plasma protein-A (PAPP-A) causes release of bound IGF and has been established in several biological systems including the ***human*** reproductive system. Using flow cytometry, we first demonstrate that PAPP-A reversibly binds to the cell surface of several cell types analyzed. Heparin and heparan sulfate, but not dermatan or chondroitin sulfate, effectively compete for PAPP-A surface binding, and because incubation of cells with ***heparinase*** abrogated PAPP-A adhesion, binding is probably mediated by a cell surface heparan sulfate proteoglycan. Furthermore, the proteolytic activity of PAPP-A is preserved while bound to cells, suggesting that adhesion functions to target its activity to the vicinity of the IGF receptor, decreasing the probability that released IGF is captured by another IGFBP molecule before receptor binding. This mechanism potentially functions in both autocrine and paracrine regulation, as PAPP-A need not be synthesized in a cell to which it adheres. A truncated PAPP-A variant without the five short consensus repeats in the C-terminal third of the 1547-residue PAPP-A subunit, lacked surface binding. We also show that PAPP-A2, a recently discovered

IGFBP-5 proteinase with homology to PAPP-A, does not bind cells. This finding allowed further mapping of the PAPP-A adhesion site to short consensus repeat modules 3 and 4 by the expression and analysis of nine PAPP-A/PAPP-A2 ***chimeras*** . Interestingly, the proteolytically inactive, disulfide-bound complex of PAPP-A and the proform of eosinophil major basic protein (proMBP), PAPP-A.midldot.proMBP, shows only weak surface binding, probably because the adhesion site of PAPP-A is occupied by heparan sulfate, known to be covalently bound to proMBP. This hypothesis was further substantiated by demonstrating that ***heparinase*** treatment of PAPP-A.midldot.proMBP restores surface binding. We finally propose a model in which IGF bioactivity is regulated by reversible cell surface binding of PAPP-A, which in turn is regulated by proMBP.

L6 ANSWER 6 OF 23 USPATFULL on STN
ACCESSION NUMBER: 2001:82563 USPATFULL <<LOGINID::20070122>>
TITLE: Isolated nucleic acid molecule encoding mammalian endoglucuronidase and uses therefor
INVENTOR(S): Freeman, Craig Geoffrey, Rivett, Australia
Hulett, Mark Darren, Cook, Australia
Parish, Christopher Richard, Campbell, Australia
Hamdorf, Brenton James, Swinger Hill, Australia
PATENT ASSIGNEE(S): The Australian National University, Acton, Australia (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6242238	B1	20010605
APPLICATION INFO.:	US 1998-181336		19981028 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	AT 1997-62	19971028
	AT 1997-812	19971209

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Achutamurthy, Ponnathapu
ASSISTANT EXAMINER: Rao, Manjunath N.
LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, LLP
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 2031
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to isolated or recombinant mammalian endoglucuronidase enzymes, polypeptides and peptides, in particular human, murine and rat heparanases, genetic sequences encoding same and uses therefor, for example in the determination and characterisation of chemical compounds, proteins, polypeptides, small molecules and macromolecules capable of inhibiting metastasis, angiogenesis, angioplasty-induced restenosis, atherosclerosis, inflammation, promote wound healing and otherwise modulate physiological processes involving heparanase cleavage of heparan sulphate. The invention further relates to a method of altering, modifying or otherwise modulating the level of expression of mammalian heparanase in a cell. A further aspect of the invention relates to immunoreactive molecules capable of binding to and/or inhibiting mammalian heparanase, in particular monoclonal antibodies. A still further aspect of the invention contemplates the use of heparanase as an agent to promote the processes of wound healing.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 7 OF 23 Elsevier BIOBASE COPYRIGHT 2007 Elsevier Science B.V. on STN DUPLICATE
ACCESSION NUMBER: 2003296249 ESBIOBASE <<LOGINID::20070122>>
TITLE: Expression Pattern and Secretion of Human and Chicken Heparanase Are Determined by Their Signal Peptide Sequence
AUTHOR: Goldshmidt O.; Zcharia E.; Aingorn H.; Guatta-Rangini Z.; Atzmon R.; Michal I.; Pecker I.; Mitrani E.;

Vlodavsky I.
CORPORATE SOURCE: I. Vlodavsky, Dept. of Oncology, Hadassah Hospital, P. O. Box 12000, Jerusalem 91120, Israel.
E-mail: Vlodavsk@cc.huji.ac.il
SOURCE: Journal of Biological Chemistry, (03 AUG 2001), 276/31 (29178-29187), 48 reference(s)
CODEN: JBCHA3 ISSN: 0021-9258
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AB ***Cleavage*** of heparan sulfate (HS) proteoglycans affects the integrity and function of tissues and thereby fundamental phenomena, involving cell migration and response to changes in the extracellular microenvironment. The role of HS-degrading enzymes, commonly referred to as heparanases, in normal development has not been identified. The present study focuses on cloning, expression, and properties of a chicken ***heparanase*** and its distribution in the developing chicken embryo. We have identified a chicken EST, homologous to the recently cloned ***human*** ***heparanase*** , to clone and express a functional chicken ***heparanase*** , 60% homologous to the ***human*** enzyme. The full-length chicken ***heparanase*** cDNA encodes a 60-kDa proenzyme that is processed at the N terminus into a 45-kDa highly active enzyme. The most prominent difference between the chicken and ***human*** enzymes resides in the predicted signal peptide sequence, apparently accounting for the chicken ***heparanase*** being readily secreted and localized in close proximity to the cell surface. In contrast, the ***human*** enzyme is mostly intracellular, localized in perinuclear granules. Cells transfected with a ***chimeric*** construct composed of the chicken signal peptide preceding the ***human*** ***heparanase*** exhibited cell surface localization and secretion of ***heparanase*** , similar to cells transfected with the full-length chicken enzyme. We examined the distribution pattern of the ***heparanase*** enzyme in the developing chicken embryo. Both the chicken ***heparanase*** mRNA and protein were expressed, as early as 12 h post fertilization, in cells migrating from the epiblast and forming the hypoblast layer. Later on (72 h), the enzyme is preferentially expressed in cells of the developing vascular and nervous systems. Cloning and characterization of ***heparanase*** , the first and single functional vertebrate HS-degrading enzyme, may lead to identification of other glycosaminoglycan degrading enzymes, toward elucidation of their significance in normal and pathological processes.

L6 ANSWER 8 OF 23 USPATFULL on STN
ACCESSION NUMBER: 94:64487 USPATFULL <<LOGINID::20070122>>
TITLE: Solid-phase substrate containing modified heparin
INVENTOR(S): Nicolson, Garth L., Kingswood, TX, United States
Nakajima, Motowo, Houston, TX, United States
Irimura, Tatsuro, Bellaire, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5332812		19940726
APPLICATION INFO.:	US 1991-776691		19911015 (7)

RELATED APPLN. INFO.: Division of Ser. No. US 1989-377015, filed on 7 Jul 1989, now abandoned which is a division of Ser. No. US 1987-12860, filed on 20 Feb 1987, now patented, Pat. No. US 4859581 which is a continuation-in-part of Ser. No. US 1986-839890, filed on 10 Mar 1986, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Brown, Johnnie R.
ASSISTANT EXAMINER: Fonda, Kathleen Kahler
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 12
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1431

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB. A solid phase substrate which yields soluble labeled products upon hydrolysis by a glycosaminoglycan endoglycosidase and methods of producing said substrate are comprised in the present invention. The solid phase substrate comprises glycosaminoglycan bearing labeled substances bound to amino groups. The labeled glycosaminoglycan substrate is reductively aminated at its reducing terminal end to produce an amine-terminus. The substrate is further coupled to an amino-reactive solid matrix through its amine-terminus.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 9 OF 23 USPATFULL on STN
ACCESSION NUMBER: 89:69679 USPATFULL <<LOGINID::20070122>>
TITLE: Endoglycosidase assay
INVENTOR(S): Nicolson, Garth L., Kingwood, TX, United States
Nakajima, Motowo, Houston, TX, United States
Irimura, Tatsuro, Bellaire, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4859581		19890822
APPLICATION INFO.:	US 1987-12860		19870220 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1986-839890, filed on 10 Mar 1986
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Rosen, Sam
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 5 Drawing Page(s).
LINE COUNT: 1362
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A solid phase substrate which yields soluble labeled products upon hydrolysis by a glycosaminoglycan endoglycosidase and methods of producing said substrate are comprised in the present invention. The solid phase substrate comprises glycosaminoglycan bearing labeled substances bound to amino groups. The labeled glycosaminoglycan substrate is reductively aminated at its reducing terminal end to produce an amine-terminus. The substrate is further coupled to an amino-reactive solid matrix through its amine-terminus.

A method of producing the solid phase substrate comprises the steps of: at least partially N-desulfating or N-deacylating a glycosaminoglycan; labeling at least partially N-deacylated or N-desulfated glycosaminoglycan with a substance yielding detectable signals to produce labeled glycosaminoglycan; completely N-acylating the labeled glycosaminoglycan with acyl anhydride or acyl halide; reductively aminating a reducing terminal end of said labeled glycosaminoglycan to produce labeled amine-terminal glycosaminoglycan; and coupling, through its terminal amine, the labeled amine-terminal glycosaminoglycan to an amino-reactive solid phase support to produce the solid phase substrate.

The solid phase substrate is usable to detect metastatic tumors by measurement of serum heparanase levels. The potential metastases of a tumor may also be determined by its heparanase levels.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 10 OF 23 BIOTECHNO COPYRIGHT 2007 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1987:17142944 BIOTECHNO <<LOGINID::20070122>>
TITLE: Inhibition of heparanase-mediated degradation of extracellular matrix heparan sulfate by non-anticoagulant heparin species
AUTHOR: Bar-Ner M.; Eldor A.; Wasserman L.; Matzner Y.; Cohen I.R.; Fuks Z.; Vlodavsky I.
CORPORATE SOURCE: Department of Radiation and Clinical Oncology,

Hadassah University Hospital, P.O. Box 12000, il 91
120 Jerusalem, Israel.
SOURCE: Blood, (1987), 70/2 (551-557)
CODEN: BLOOAW ISSN: 0006-4971
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
AN 1987:17142944 BIOTECHNO <<LOGINID::20070122>>
AB Incubation of ***human*** platelets, ***human*** neutrophils, or highly metastatic mouse lymphoma cells with sulfate-labeled extracellular matrix (ECM) results in ***heparanase*** -mediated release of labeled heparan sulfate ***cleavage*** fragments ($0.5 < K(av) < 0.85$ on Sepharose 6B). This degradation was inhibited by native heparin both when brought about by intact cells or their released ***heparanase*** activity. Degradation of heparan sulfate in ECM may facilitate invasion of normal and malignant cells through basement membranes. The present study tested the ***heparanase*** inhibitory effect of nonanticoagulant species of heparin that might be of potential use in preventing ***heparanase*** mediated extravasation of bloodborne cells. For this purpose, we prepared various species of low-sulfated or low-mol-wt heparins, all of which exhibited <7% of the anticoagulant activity of native heparin. N-sulfate groups of heparin are necessary for its ***heparanase*** inhibitory activity but can be substituted by an acetyl group provided that the O-sulfate groups are retained. O-sulfate groups could be removed provided that the N positions were resulfated. Total desulfation of heparin abolished its ***heparanase*** inhibitory activity. Heparan sulfate was a 25-fold less potent ***heparanase*** inhibitor than native heparin. Efficiency of low-mol-wt heparins to inhibit degradation of heparan sulfate in ECM decreased with their main molecular size, and a ***synthetic*** pentasaccharide, representing the binding site to antithrombin III, was devoid of inhibitory activity. Similar results were obtained with ***heparanase*** activities released from platelets, neutrophils, and lymphoma cells. We propose that ***heparanase*** inhibiting nonanticoagulant heparins may interfere with dissemination of bloodborne tumor cells and development of experimental autoimmune diseases.

L6 ANSWER 11 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18995 protein DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase consensus cleavage site #2.
AN ADZ18995 protein DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a ***human*** ***heparanase*** consensus ***cleavage*** site used in the scope of the invention.

L6 ANSWER 12 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ19012 protein DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites

located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase protein.
AN ADZ19012 protein DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a ***human*** ***heparanase*** protein used in the scope of the invention.

L6 ANSWER 13 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18994 protein DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase consensus cleavage site #1.
AN ADZ18994 protein DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a ***human*** ***heparanase*** consensus ***cleavage*** site used in the scope of the invention.

L6 ANSWER 14 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18986 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #7.
AN ADZ18986 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by

endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 15 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18985 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #6.
AN ADZ18985 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 16 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18988 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #8.
AN ADZ18988 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 17 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18984 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #5.
AN ADZ18984 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 18 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18980 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #1.
AN ADZ18980 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 19 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18981 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #2.
AN ADZ18981 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by

endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 20 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18990 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #9.
AN ADZ18990 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 21 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18992 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #10.
AN ADZ18992 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 22 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18983 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.

INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #4.
AN ADZ18983 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

L6 ANSWER 23 OF 23 DGENE COPYRIGHT 2007 The Thomson Corp on STN
ACCESSION NUMBER: ADZ18982 DNA DGENE
TITLE: Synthetic nucleic acid for e.g. inhibitor screening, comprises a nucleotide sequence that encodes mammalian heparanase protein and has two consensus cleavage sites located between specific nucleotide encoding residues.
INVENTOR: Lahm A; Nardella C; Pallaoro M; Steinkuhler C
PATENT ASSIGNEE: (RICE-N)IST RICERCHE BIOL MOLECOLARE ANGELETTI.
PATENT INFO: WO 2005030962 A1 20050407 65
APPLICATION INFO: WO 2004-EP10517 20040917
PRIORITY INFO: US 2003-506479P 20030926
US 2004-537729P 20040120
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2005-273382 [28]
DESCRIPTION: Human heparanase construct DNA PCR primer #3.
AN ADZ18982 DNA DGENE
AB The invention relates to a ***synthetic*** nucleic acid molecule that encodes mammalian ***heparanase*** protein, where the nucleic acid comprises two consensus ***cleavage*** sites recognized by endoproteinase. The sequences are useful for expressing mammalian ***heparanase*** in non-mammalian cells and in inhibitor screening assays for the development of therapeutics or pharmaceuticals for inhibiting or treating metastasis, autoimmune disease and/or inflammation. This sequence represents a PCR primer used to amplify ***human*** ***heparanase*** construct DNA used in the scope of the invention.

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L1 QUE (HEPARINASE OR HEPARANASE OR (HEPARIN (W) LYASE) OR (HEPARA

FILE 'DGENE, CAPLUS, BIOSIS, MEDLINE, EMBASE, SCISEARCH, USPATFULL, ESBIOBASE, BIOTECHNO, TOXCENTER, WPIDS' ENTERED AT 10:38:03 ON 22 JAN 2007
L2 14101 S L1
L3 3882 S HUMAN (S) L2
L4 157 S (SYNTHETIC OR CHIMER?) (S) L3
L5 25 S CLEAV? (S) L4
L6 23 DUP REM L5 (2 DUPLICATES REMOVED)

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